sponding descriptive terms that characterize the content items. The system also includes input logic that receives keystrokes from the user and builds a string corresponding to incremental entries by the user. Each item in the string has the set of alphanumeric symbols associated with a corresponding keystroke. The system further includes mapping logic, cooperating with the database, to map the string to the database to find the most likely content items corresponding to the incremental entries. The mapping logic operates in accordance with a defined error model, and the error model corresponds to the known layout of overloaded keys of the input device. The system also includes presentation logic that orders the most likely content items identified by the mapping logic and presents on a display device the most likely content items in accordance with defined ordering criteria. The system operates such that the user-interface system receives ambiguous entries from the user and presents the most likely matching content items.

[0010] In other embodiments, the error models include one or a combination of generating typographic variants of the descriptive terms that characterize the content items, generating orthographic variants of the descriptive terms that characterize the content items, generating N-gram variants of the descriptive terms that characterize the content items, wherein the N-gram variants include variants based on nonadjacent characters of the descriptive terms, and/or using distance functions to assign error penalties to errors occurring in the string.

[0011] In further embodiments, the database contains pre-computed variants of the descriptive terms that characterize the content items, and the mapping logic maps the incremental entries to the pre-computed variants. The pre-computed variants can be encoded according to the known layout of overloaded keys of the input device. Similarly, the mapping logic can generate variants in real time based on the incremental entries and use the variants to find the most likely content items corresponding to the incremental entries.

[0012] In yet further embodiments, the mapping logic includes dynamic intersection logic. The dynamic intersection logic identifies a first set of content items corresponding to a first set of alphanumeric symbols in the string and identifies a second set of content items corresponding to a second set of alphanumeric symbols in the string. The dynamic intersection logic includes content items appearing in both the first and second set of content items in the most likely content items corresponding to the incremental entries, but can exclude content items not appearing in both sets. The dynamic intersection logic can be invoked with each user query, or the dynamic intersection logic can be invoked when the number of most likely content items returned by the mapping logic without the dynamic intersection logic is below a predetermined threshold.

[0013] In some embodiments, the most likely content items are presented on a display device in accordance with at least one of personalized user preferences, popularity of the content items, temporal relevance of the content items, location relevance of the content items, recency of the content items, and relevance of the descriptive terms to the content items. The display device can be a display-constrained device, e.g., a wireless communication device, a mobile phone, a PDA, a personal media player, or a television. Similarly, the input device can be an input constrained device, e.g., a wireless communication device, a mobile phone, a PDA, a personal media player, or a television remote control.

BRIEF DESCRIPTIONS OF DRAWINGS

[0014] For a more complete understanding of various embodiments of the present invention, reference is now made to the following descriptions taken in connection with the accompanying drawings in which:

[0015] FIG. A illustrates a keypad with overloaded keys in accordance with the prior art;

[0016] FIG. **1** illustrates a text entry system in accordance with one or more embodiments of the invention being used in a wide range of configurations;

[0017] FIG. **2** illustrates a system configuration to perform text entry in accordance with one or more embodiments of the invention;

[0018] FIG. **3** is a flow chart illustrating the process flow for a pre-computation scheme of indexing typographic and orthographic equivalents of each term of the search space in accordance with one or more embodiments of the invention;

[0019] FIG. **4** is a flow chart illustrating the action flow sequence as the user enters each character of the query string in accordance with one or more embodiments of the invention; and

[0020] FIG. **5** illustrates a data structure for retrieving results incrementally for each ambiguous input character.

DETAILED DESCRIPTION

[0021] Embodiments of the invention include methods and systems for creating an error compensated searchable catalog of items and using descriptive search terms prefix strings to incrementally search the catalog despite typographic and orthographic errors contained in said prefixes. In an illustrative embodiment, the catalog contains terms and phrases that describe items of interest to a user of the system. The catalog also contains prefixes and/or word fragments of the individual terms, as well as misspelled orthographic and typographic equivalents of the terms, along with their respective prefixes and fragments. The items of interest may include, for example, content items (such as television shows or movies) or data items (such as address book records or to do list items).

[0022] Once the catalog of terms is created, the user may search the catalog using prefixes of the descriptive terms. As the user enters ambiguous alphanumeric characters of a term the user is using to describe the desired item, the system incrementally searches the encoded catalog to find matches for the ambiguous prefix input. Because the system compares the user's input to the pre-computed error-compensated descriptive terms, term prefixes, and term word fragments, the illustrative embodiment provides for automatic correction of orthographic and typographic misspellings. In addition, the system allows the user to search the catalog by using orthographic and typographic variations that require less keystrokes. These variations can take the form of known homonyms, e.g., "aft" may be substituted for "aught", as in "draft/draught", and "it" may be substituted for "ight", as in "nite/night", or the user may employ intentional phonetic